

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lacourcelle (USPN 5,966,975) in view of Mukherjee (USPN 5,808,262), Rupert (USPN 4,786,777) and Anthony et al. (USPN 5,636,545).

Lacourcelle discloses a conductor wire that is passed through a bath of molten metal. The wire is heated while passing through the bath, which improves adhesion of the zinc coating. The wire is then drawn through a series of dies. There are means for guiding and driving the wire.

Lacourcelle does not disclose the specifics about temperature, drawing, dies, and guiding.

Mukherjee discloses the manufacturing of a spark erosion wire. The wire has a zinc coating. The zinc pot is at about 60-70°C. The wire after coating is then heated at higher temperatures, but that are less than 419°C in order to absorb the zinc and form a desirable surface structure. At annealing the wires are about 3.0 mm in diameter. The wire is then reduced using dies. Fine wires may have reductions of up to 96% reduction of area. Annealing is conducted in a pipe type furnace. Wires transport at speeds of about 40 mm/per minute in the furnace for 0.25 mm wires.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the temperatures and furnace type, as taught by Mukherjee in the Lacourcelle process because are standards parameters for zinc coated wire production.

Rupert discloses a wire electrode trimming process. Wire electrodes used for electrical discharge spark erosion have been dressed by grinding or mechanical cutting and one form is a taper.

It would have been obvious to one of ordinary skill in the art at the time of the invention to form a taper as taught by Rupert, in the Lacourcelle process because it is a variation of a wire tip.

Anthony et al. discloses a diamond wire die. The wire die bore has a first taper, an end taper and a mid-section that is straight. Wires processed through the die range from 0.03 to 5.0 mm diameter.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a die, as taught by Anthony et al. because it is variation of standard dies used in manufacturing.

### ***Response to Arguments***

Applicant's arguments filed 1/7/08 have been fully considered but they are not persuasive.

Applicant argues that a pre-coating, main-coating and a secondly surface forming are not taught by the prior art. The examiner respectfully disagrees because the prior art

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teaches a surface forming, just by the very fact that they are manufactured wires (therefore having a surface “forming”; the same as applicant's definition). The wires are coating (pre-coating) and heat treated yielding a final coating or main coating.

Applicant argues that Mukherjee does not teach the exact bath temperature. The examiner respectfully notes that Mukherjee teaches a bath temperature that may be less than 419°C. Although the specific temperature range of about 430-480 and 440 to 500°C is not taught (applicant's independent claim states 400°C) it would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges of temperatures through process of optimization, since it has been held that the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges (of temperature which are known to fluctuate greatly with environment, apparatus and so forth) involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

Applicant argues that Mukherjee does not teach the exact rate of reduction or speed of processing. Although the exact rate of reduction or speed or processing is not taught, a very closely approximating rate of reduction and so forth is taught. It would have been obvious to one of ordinary skill in the art at the time of the invention to choose the instantly claimed ranges of rate of reduction (speed of processing) through process of optimization, since it has been held that the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Alexandra Elve whose telephone number is 571-272-1173. The examiner can normally be reached on 7:30-4:00 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu B. Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

April 13, 2008.

/M. Alexandra Elve/  
Primary Examiner, Art Unit 3742